

WHAT IS CLAIMED IS:

1. An electromotive device used in an oil, said electromagnetic device comprising:

an outer casing;

a moveable shaft supported by said outer casing;

a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft; and

a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin,

wherein said bobbin and said outer molding are composed of an electrically-insulating material resistant to permeation by sulfur compounds.

2. The electromotive device according to Claim 1 wherein said electrically-insulating material resistant to permeation by sulfur compounds is a thermosetting resin.

3. An electromotive device used in an oil, said electromagnetic device comprising:

an outer casing;

a moveable shaft supported by said outer casing;

a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft; and

a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin,

wherein said conducting wire is constituted by a copper wire, an electrically-insulating layer coated on said copper wire, and a protective layer coated on said electrically-insulating layer, said protective layer being composed of an electrically-insulating material resistant to permeation by

sulfur compounds.

4. The electromotive device according to Claim 3 wherein said electrically-insulating material resistant to permeation by sulfur compounds is a thermosetting resin.

5. An electromotive device used in an oil, said electromagnetic device comprising:

an outer casing;
a moveable shaft supported by said outer casing;
a bobbin disposed inside said outer casing so as to be disposed around said moveable shaft on a common axis with said moveable shaft; and
a coil embedded in an outer molding, said coil being constructed by winding a conducting wire onto said bobbin,

wherein said conducting wire is constituted by a copper wire, a high-temperature solder layer coated on said copper wire, and a protective layer coated on said high-temperature solder layer, said protective layer being composed of an electrically-insulating material resistant to permeation by sulfur compounds.

6. The electromotive device according to Claim 5 wherein said electrically-insulating material resistant to permeation by sulfur compounds is a thermosetting resin.